

Notice of Allowability

Application No.

10/003,586

Examiner

Khanh B. Pham

Applicant(s)

HOFFMAN ET AL.

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 5/20/2005.
2. ☒ The allowed claim(s) is/are 1-10, 19, 22-29, Re-numbered as 1-19.
3. ☒ The drawings filed on 29 October 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>08022005</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

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EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. David Marcus, Applicant's representative, on July 29, 2005 and August 1, 2005.

The application has been amended as follows:

In the claims:

- Claims **11-12, 14-18, 21** and **30** have been **canceled**.
- Claims **1, 19** have been **amended** as follows:

Claim 1:

1. A computer implemented method for continuing a preorder traversal of a binary tree formed by a family of node when a last node visited in a first partial traversal no longer exists in the tree, each node in the family comprising a child pointer, a sibling pointer, and a unique counter value, the method comprising:

receiving as input a continuation node and a lineage ~~for~~ of the continuation node, the continuation node comprising the last node visited in the first partial traversal;

determining an updated continuation node by locating a first node currently existing in the tree included in the lineage of the continuation node having a level higher than any other nodes currently existing in the tree included in the lineage of

the continuation node, the updated continuation node comprising the first currently existing node; and

continuing the preorder traversal of the tree from the updated continuation node[.]

wherein the determining step comprises comparing unique counter values of nodes currently existing in the tree with the continuation node unique counter value.

Claim 19:

19. A computer implemented method for locating an updated continuation node in a dynamic binary tree formed by a family of nodes when a last node visited in a first partial traversal of the tree no longer exists, each node in the family comprising a child pointer, a sibling pointer, and a unique counter value, the method comprising:

(a) receiving as input a continuation node and an abbreviated lineage for the continuation node, the continuation node comprising the last node visited in the first partial traversal of the tree; and

(b) traversing the nodes in the tree along the abbreviated lineage until the counter value indicates that a first valid node beyond the continuation node has been reached[.];

wherein the step (b) comprises:

(b)(1) determining whether the continuation node has a depth equal to or less than zero; and

(b)(2) if the result of step (b)(1) is no, traversing the nodes in the tree along the abbreviated lines until the counter value indicates that a first valid node beyond the continuation node has been reached.

Allowable Subject Matter

2. Claims 1-10, 19, 22-29 are allowed. (Re-numbered as 1-19)
3. The following is an examiner's statement of reasons for allowance:

Prior art of record do not teach the combination of claimed elements which direct to a method for continuing a partial traversal of a binary tree "when a last node visited in a first partial traversal no longer exists" comprising: "receiving as input a continuation node and a lineage of the continuation node", "determining an updated continuation node" by "comparing unique counter value of nodes currently existing in the tree with the continuation node unique counter value" as recited in claim 1. Thus, prior art of record neither renders obvious nor anticipates the combination of claimed elements in light of the specification. Claim 19 recites similar limitations and therefore is also allowable. Dependent claims 2-10 and 22-29 are allowed at least by virtue of their dependencies from claims 1 and 19.

After a further search and a thorough examination of the present application and in light of the prior art made of record, claims 1-10, 19, 22-29 are allowed.

Conclusion

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh B. Pham whose telephone number is (571) 272-4116. The examiner can normally be reached on Monday through Friday 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Khanh B. Pham
Examiner
Art Unit 2167

August 2, 2005

